Unified Watershed Assessment
Coeur d'Alene Tribe – Fish, Water, and Wildlife Program

The Coeur d'Alene Reservation includes portions of three (3) hydrologic units within the larger Spokane River Basin. These include the St Joe River (HUC #17010304), the Coeur d'Alene Basin (HUC #17010303), and Hangman Creek (HUC #17010306).

All Reservation watersheds are Category I watersheds as defined by the Clean Water Action Plan (CWAP). All rivers and streams within the Reservation are lacking continuous riparian corridors with canopy cover sufficient to maintain temperatures necessary for full use support. Reservation waters are also heavily impacted by agriculture, forestry, grazing, and mining. Sediment, nutrients, bacteria, and heavy metal contamination have been documented in Reservation waters within all three HUC's.

Tribal natural resource staff are active in sampling Reservation waters and assessing landscape-scale watershed conditions. The Tribe has thirteen sampling stations on Lake Coeur d'Alene including one at the mouth of the Coeur d'Alene River. There are also twenty-four stream monitoring sites which are currently sampled for discharge, temperature, pH, dissolved oxygen, conductivity, sediment, turbidity, and nutrients. Recent Tribal monitoring supports the designation of all Reservation waters as Category I. Table 1 (attached) contains some recent monitoring results documenting this designation. The Tribe has also completed a historical wetland loss analysis, which demonstrates an 83% loss of wetland acreage since settlement of the Reservation. The value is strongly weighted by extreme losses (~91% of historical acres) in the Hangman Creek Watershed (HUC #17010306), which supported the majority of historical wetland acres of the Reservation.

In addition, other Federal, State, and County entities have sampled Reservation waters and documented water quality conditions in violation of Tribal and State standards and EPA Gold Book criteria. Examples of violations recorded by other agencies include temperature (all HUC's), dissolved oxygen (HUC #17010306), bacteria (HUC's #17010303 and 17010306), nutrients (all HUC's), and metals (HUC #17010303). An attached bibliography lists documents where water quality violations are recorded. EPA's STORET database also contains much of the data used in these documents.

The Tribe continues to work cooperatively with other agencies in monitoring Reservation waters, and implementing watershed restoration projects. Current cooperative efforts include those with the USGS, Kootenai-Shoshone and Benewah Soil Conservation Districts, and Spokane County Conservation District. The Tribe also has a Memorandum of Agreement with the Benewah County Soil and Water Conservation District to work cooperatively on non-point source pollution issues.

Water quality problems in Reservation waters are formally recognized in the current 303(d) list and TMDL schedule for various waters. The following waters are currently scheduled for TMDL's for the listed pollutants.

Listed Water	HUC #	Pollutants	TMDL Due
Lake Coeur d'Alene	17010303	Metals	1997 (in progress)

Lake Creek	17010303	Sed	1999
Willow Creek	17010303	Sed	1999
Fighting (Rockford) Creek	17010303	Sed, Nut., Hab.	1999
Benewah Creek	17010304	Sed, Nut. Hab., DO	2002
Hangman Creek	17010306	Sed, Nut., path	2005
Little Hangman Creek	17010306	Nut.	2005

Four Reservation subwatersheds (Alder, Benewah, Evans, and Lake Creeks; HUC's 17010303 and 17010304) are designated as priorities for restoration by the Tribe due to the presence of viable populations of westslope cutthroat trout. The species is a historic cultural food source, and a candidate for listing under the Endangered Species Act. The four subwatersheds were chosen based on four years of Tribal Reservation-wide salmonid habitat and population studies. Two of these bodies (Lake and Benewah Creeks) also appear on the above 303(d) list. In addition, the Hangman Creek watershed is also a restoration priority due to the large portion of Tribal land ownership there, and the cultural history contained in the watershed.

Combining factors of cultural significance, presence/absence on the 303(d) list, and the degree to which a water body is contained within the Reservation, the following priority levels were created:

Priority I: All three factors of cultural significance, 303(d) listing, and significant inclusion within the Reservation apply to these water bodies, or one or two factors apply to an exceptional degree. These are top restoration priorities for the Tribe.

Priority II: Two factors apply to these waters, which are second-tier restoration priorities for the Tribe.

Priority III: One or no factors apply to these waters, which are low restoration priorities for the Tribe.

Applied to Reservation water bodies and their respective (sub)watersheds, the following restoration priorities are assigned. Priorities are assigned at the subwatershed level in most cases, as the 8-digit HUC's are too large relative to the Reservation to produce a meaningful ranking. The four digits in parentheses correspond to the last four digits of the HUC in which the subwatershed is found:

<u>Priority I Waters</u>

Lake Coeur d'Alene (0303)
Evans Ck (0303)
Benewah Ck. (0304)
St Joe River (0304)
Lake Ck (0303)
Alder Ck (0304)
Hangman Ck mainstem (0306)

Priority II Waters

Willow Ck (0303)
Plummer Ck (0304)
Moctileme Ck (0306)
Rock Ck (0306)
Little Hangman Ck (0306)
Black Lake (0303)

Priority III Waters

Fighting Ck (0303)
Cherry Ck (0304)

Not all individual Reservation water bodies are listed above. In most cases, they are small tributaries of waters contained in the priority list, and will be treated as part of the same.

Below is a brief description of water quality problems and their causes in the Priority I (sub)watersheds:

Lake Coeur d'Alene: The Lake is currently impaired by heavy metals transported from historical mining districts to the Lake through the Lower Coeur d'Alene River. Eutrophication is accelerated due to nutrient loads from tributaries impacted by agriculture, grazing, and logging. Thermal pollution has resulted from expanded littoral habitat caused by the Post Falls Dam. This has also favored non-native warm water fishes over salmonids, which are a significant cultural resource for the Tribe.

Alder Creek:: Alder Creek is impaired by temperature and sediment due to grazing damage and road construction in riparian zones, riparian cover removal, and logging in the headwaters.

Benewah Creek: Benewah Creek is impaired by temperature and sediment due to grazing damage and road construction in riparian zones, riparian cover removal, and logging in the headwaters.

Evans Creek: Evans Creek is impaired by temperature and sediment due to grazing damage and road construction in riparian zones, riparian cover removal, and logging in the headwaters.

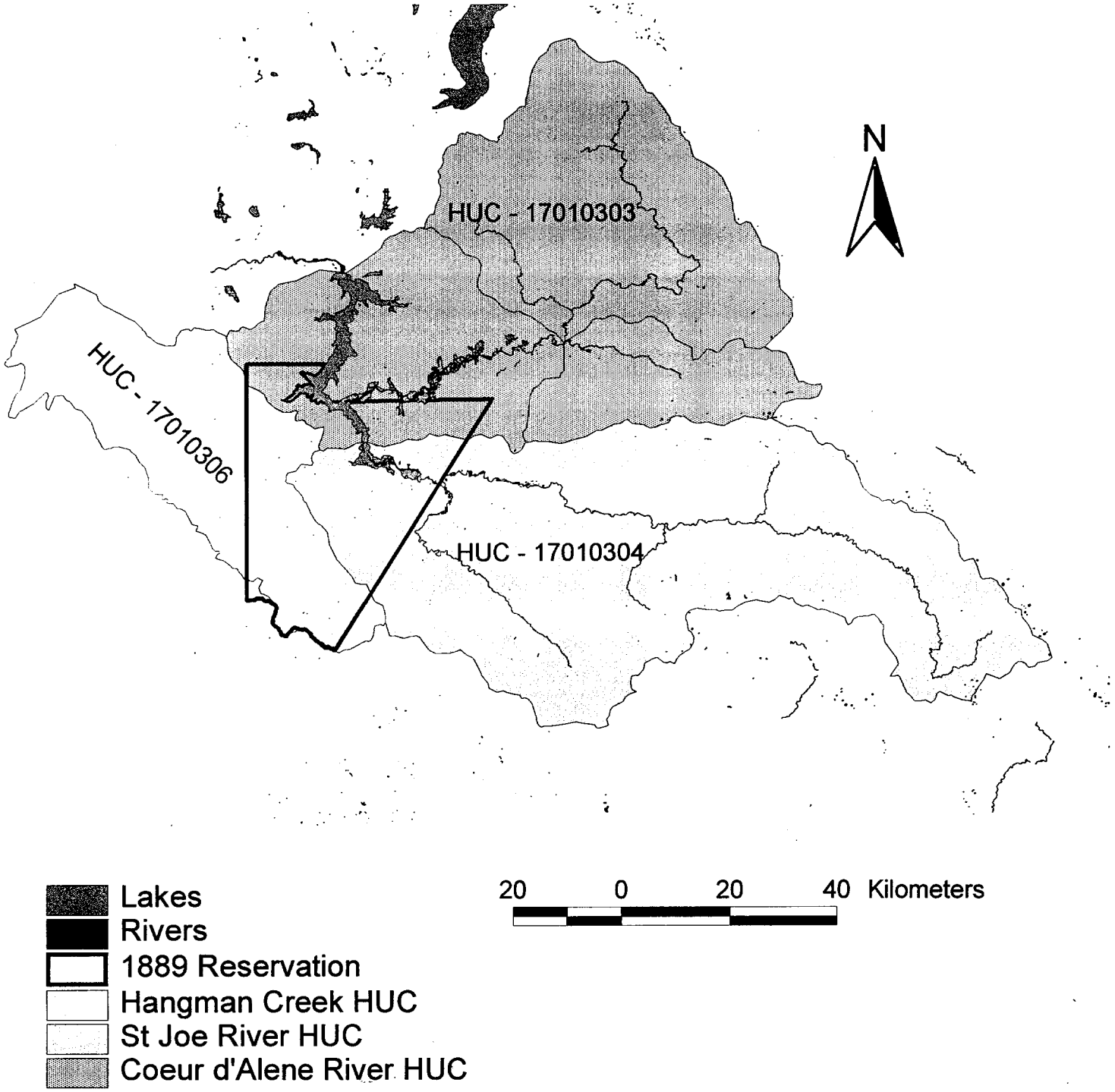
Lake Creek: Lake Creek is impaired by temperature and sediment due to agriculture and grazing damage in riparian zones, riparian cover removal, and logging in the headwaters. Sediment in Lake Creek was recently correlated to total phosphorous levels in excess of EPA Gold Book criteria.

Hangman Creek: Hangman Creek is impaired by temperature, sediment, nutrients, pathogens, and low dissolved oxygen levels. Considerable lengths of the mainstem have been straightened, causing serious bank erosion. Agriculture and grazing have been the main causative agents, and were the initial impetus to alter the stream course.

Restoration efforts have begun in most Priority I (sub)watersheds. These include streambank and riparian restoration, and application of BMP's for agriculture and forestry. The projects were implemented cooperatively with landowners and the Kootenai-Shoshone and Benewah Conservation Districts. Efforts have been funded through mitigation funds from Bonneville Power Administration, and through Section 319 of the CWA.

A significant future need for the Tribe will be funding for the development of TMDL's, and their respective implementation plans. Funds will be needed for professional and technical staff, and cost-shared implementation projects between the Tribe, Conservation Districts, and private landowners. In most cases, the development and implementation of TMDL's will build upon and support efforts in priority watersheds for cutthroat fishery recovery, as two are already on the 303(d) list, and the others are likely to be listed based on recent monitoring data (Alder and Evans Creek).

Category 1 Watersheds of the Coeur d'Alene Reservation



	Dissolved Oxygen		Temperature		pH		Conductivity	
Location (last four HUC digits)	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Upper Fighting Cr. (0303)	13.01 4/1/98	8.06 7/28/98	**17.74 7/28/98**	1.04 1/5/98	7.26 6/29/98	6.45 3/20/98	74.8 2/4/98	37.7 4/1/98
Lower Fighting Cr. (0303)	13.08 1/5/98	8.72 7/28/98	18.15 7/28/98	1.04 1/5/98	7.27 6/29/98	6.47 3/20/98	76.2 2/4/98	40.1 4/1/98
Lower Lake Cr. (0303)	14.18 1/5/98	9.04 7/28/98	20.37 7/28/98	0.63 1/5/98	7.51 6/29/98	6.46 2/4/98	26.3 4/29/98	70.8 2/4/98
Upper Lake Cr. (0303)	12.63 4/29/98	**7.45 7/28/98**	**18.2 7/28/98**	0.27 1/5/98	6.98 6/29/98	6.06 2/4/98	37.4 7/28/98	21.2 4/29/98
Bozard Cr. (0303)	13.08 4/1/98	8.23 7/28/98	**17.52 7/28/98**	2.01 3/2/98	7.1 6/29/98	6.2 4/29/98	21.5 4/1/98	39.3 7/28/98
Plummer Cr. (0304)	14.39 1/5/98	8.05 7/30/98	**21.55 7/30/98**	1.08 1/5/98	7.34 6/2/98	6.76 2/4/98	132.3 7/30/98	61.8 6/2/98
Little Plummer Cr. (0304)	12.81 4/15/98	8.61 7/28/98	**23.8 7/28/98**	4.19 4/15/98	7.6 7/28/98	6/82 3/2/98	81.8 6/29/98	45.5 4/1/98
Benewah Cr. (0304)	14.03 1/5/98	9.01 7/29/98	**21.58 7/29/98**	0.99 1/5/98	7.79 7/29/98	6.72 2/4/98	56.1 7/29/98	28.9 4/2/98
Whitetail Cr. (0304)	13.28 3/3/98	**5.63 7/29/98**	18.22 7/29/98	2.04 3/3/98	7.12 6/30/98	6.35 3/3/98	80.4 7/29/98	27.8 4/2/98
Windfall Cr. (0304)	13.77 4/2/98	**7.16 7/29/98**	**23.04 7/29/98**	0.94 1/5/98	7.18 6/30/98	6.17 3/3/98	64.3 7/29/98	26.5 4/2/98
School House Cr. (0304)	13.32 1/5/98	**5.88 7/30/98**	16.54 7/30/98	1.02 1/5/98	7.13 6/30/98	6.2 2/6/98	61.7 7/30/98	22 2/6/98
Upper Benewah Cr. (0304)	14.16 1/5/98	9.56 7/30/98	**17.61 7/30/98**	0.6 1/5/98	7.29 7/30/98	6.47 2/6/98	30.6 7/30/98	18.5 4/2/98
West Fork Benewah Cr. (0304	13.55 1/5/98	9.19 7/30/98	**17.23 6/30/98**	0.8 1/5/98	7.23 7/30/98	6.52 2/6/98	34.7 7/30/98	22.3 4/2/98
Evans Cr. (0303)	14.62 4/30/98	9.74 7/28/98	**19.06 7/28/98**	1.98 1/6/98	6.89 7/28/98	6.18 1/6/98	23.8 7/28/98	13.5 4/30/98
Upper Evans Cr. (0303)	14.09 4/2/98	9.98 7/29/98	**14.81 7/29/98**	3.14 3/2/98	7.04 6/2/98	6.28 4/30/98	20 7/29/98	10.7 4/30/98
East Fork Evans Cr. (0303)	13.43 4/15/98	9.61 7/29/98	**16.07 7/29/98**	2.97 3/2/98	7.18 7/29/98	6.36 3/2/98	31.8 7/29/98	17.3 4/30/98
Cherry Cr. (0304)	13.17 4/2/98	10.54 7/28/98	**19.88 7/28/98**	3.78 3/2/98	8.18 7/28/98	6.84 4/14/98	56.4 7/28/98	24.8 4/2/98
Alder Cr. (0304)	13.84 1/5/98	9.91 7/29/98	**23.44 7/29/98**	0.25 1/5/98	8.04 7/29/98	6.55 2/6/98	77.1 7/28/98	33.3 4/1/98
North Fork Alder Cr. (0304)	13.27 3/3/98	8.89 7/29/98	**21.18 7/29/98**	1.94 3/3/98	7.7 7/29/98	6.6 3/3/98	59.8 7/29/98	25.2 4/1/98
Hangman Cr. (0306)	13.02 1/5/98	**4.85 7/30/98**	22.25 7/30/98	0.37 1/5/98	7.42 6/29/98	6.75 1/5/98	197 7/30/98	79 6/2/98
Rock Cr. (0306)	12.18 3/2/98	**0.31 7/28/98**	17.93 7/28/98	3.22 3/2/98	7.27 5/14/98	4.91 3/2/98	344 7/28/98	147.1 6/2/95
Little Hangman Cr. (0306)	13.22 1/5/98	**4.51 7/30/98**	20.95 7/30/98	0.17 1/5/98	8.39 4/30/98	6.83 1/5/98	266 7/30/98	124 2/6/98
Moctileme Cr. (0306)	14.24 4/14/98	**6.58 7/30/98**	20.63 7/30/98	4.63 3/3/98	7.68 4/1/98	6.98 4/14/98	257 7/30/98	121.1 6/2/98
Indian Cr. (0306)	13.75 1/5/98	9.68 7/30/98	15.44 7/30/98	0.68 1/5/98	7.32 7/30/98	6.51 2/6/98	41.9 7/30/98	26.5 4/1/98

Table 1: Summary of water quality of Reservation waters during 1998 field season. **Bold type** denotes values in violation of applicable Tribal water quality standards.

BIBLIOGRAPHY

Benewah County Soil and Water Conservation District, 1990. Agricultural pollution abatement plan, Plummer Creek watershed. Plummer, ID, 104 pp. and appendices.

Bottelli, J., 1998. Coeur d'Alene Tribe Historical Atlas (draft). Environmental Action Plan Project, Coeur d'Alene Tribe, 26 pp.

Breithaupt, T., 1990. Plummer Creek and Chatcolet Lake, Benewah and Kootenai Counties, Idaho. Water quality status report No. 93. Idaho Dept. of Health and Welfare, Boise, ID.

Coeur d'Alene Lake Management Plan, 1992. Coeur d'Alene Tribe, Clean Lakes Coordinating Council, and Idaho Division of Environmental Quality.

Eylar, T., 1990. Lake Creek, Kootenai County, Idaho. Water quality status report No. 93. Idaho Dept. of Health and Welfare, Boise, ID.

Fortis, B. and M. Hartz, 1991. Hangman Creek post-best management practices implementation study. Water Quality Status Report #95, Idaho Dept. of Health and Welfare, Boise, ID.

Graves, S., Lillengreen, K.L., Johnson, C.D., and Scholz, A.T., 1990. Fisheries habitat evaluation on tributaries of the Coeur d'Alene Indian Reservation. Bonneville Power Administration. Division of Environment, Fish, and Wildlife, Portland, OR. Project #90-044, 80pp.

Issacson, A., 1998. Riparian study of the headwaters of Latah Creek. SnowH2O Consultants, Inc.

Kootenai-Shoshone Soil Conservation District, 1991. Agricultural pollution abatement plan, Lake Creek watershed. Coeur d'Alene, ID, 97 pp. and appendices.

Lillengreen, K.L., Johnson, C.D., and Scholz, A.T., 1993a. Fisheries habitat evaluation on tributaries of the Coeur d'Alene Indian Reservation. Bonneville Power Administration. Division of Environment, Fish, and Wildlife, Portland, OR. Project #90-044, 260pp.

Lillengreen, K.L., Skillingstad, T., and Scholz, A.T., 1993b. Fisheries habitat evaluation on tributaries of the Coeur d'Alene Indian Reservation. Bonneville Power Administration. Division of Environment, Fish, and Wildlife, Portland, OR. Project #90-044, 219pp

Lillengreen, K.L., Vitale, A., and Peters, R., 1996. Fisheries habitat evaluation on tributaries of the Coeur d'Alene Indian Reservation. Bonneville Power Administration. Division of Environment, Fish, and Wildlife, Portland, OR. Project #90-044, 260pp.

SCCD, 1994. Hangman Creek Watershed Management Plan. Hangman Creek Restoration Project, Spokane County Conservation District, Spokane, WA.

_____, 1998. A Chronicle of Latah (Hangman) Creek: Fisheries and Land Use. Spokane County Conservation District, Spokane, WA.

Soltero, R.A., L.M. Sexton, L.L. Wargo, D.D. Geiger, K.J. Robertson, K.E. Bolstad, J.P. Buchanan, M.S. Johnson, and D. Lamb, 1992. Assessment of nutrient loading sources and macrophyte growth in Long Lake (Lake Spokane), WA, and the feasibility of various control measures. Eastern Washington University, Cheney, WA.

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February 25, 1999

Unified Watershed Assessment
Federal Workgroup
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Enclosed is a Unified Watershed Assessment from the Coeur d'Alene Tribe located near Plummer, Idaho (EPA Region 10). The UWA has incorporated previous comments from EPA reviewers. We appreciate the comments, as the result is an improved product.

The UWA process has been productive in focusing watershed health needs and restoration priorities. We look forward to a favorable review.

Sincerely,

Eric Krueger
Water Division Manager
Coeur d'Alene Tribe - Fish, Water, and Wildlife Program